

The Ultimate in Radiant Heating Systems

**CF-2100 SERIES
FIREPLACES**

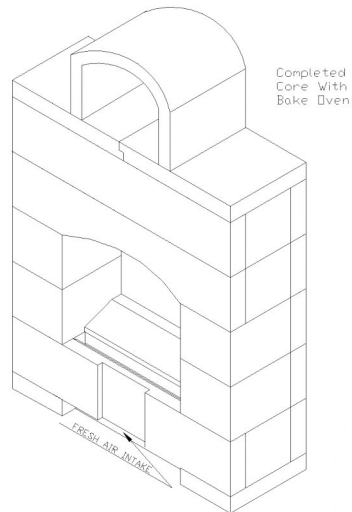
INSTALLATION MANUAL

October, 2005

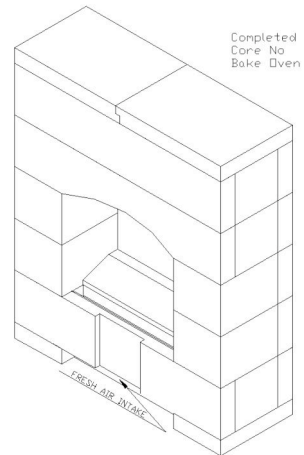
**Crossfire Fireplaces
249 Bridge Street West, P.O. Box 121
Campbellford, Ontario, Canada K0L 1L0
Tel: 1-800-865-8784 Fax: 705-653-0128**

Final Look

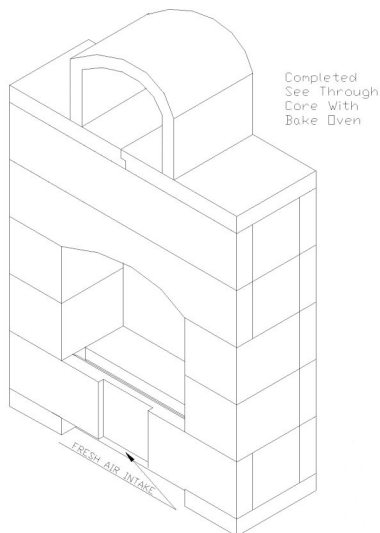
The Crossfire you purchased will be one of 4 options. Upon completion of the assembly of the core, it should look like one of the diagrams below:



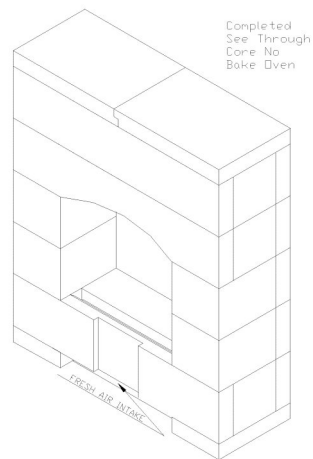
CF-2100-BO
(our most popular fireplace)



CF-2100
(no bake over)



CF-2100-BO-ST
(see-through)



CF-2100-ST
(see-through but no bake oven)

Planning For Your Crossfire Fireplace

Please read this manual completely before constructing your Crossfire.

Before you start your installation, there are some decisions that need to be made.

Which floor will your fireplace be located on? Basement? First floor? Second floor?

The footings for your Crossfire will be basically the same regardless of which floor you choose to put the unit on. For first or second floor installations, there will be a need to construct concrete block supporting walls, capped with a concrete pad to support the Crossfire.

Where will the chimney be located?

This is based on aesthetics. Your options are; a chimney on each side, a single chimney on the right hand side, a single chimney on the left hand side or a single chimney at the back. If you have chosen the See-Through option for your fireplace, the chimney at the back of the unit is not an option because it would be in front of the door.

Once you have decided upon where the fireplace is going and which chimney option you want, simply follow the instructions below corresponding to your choices.

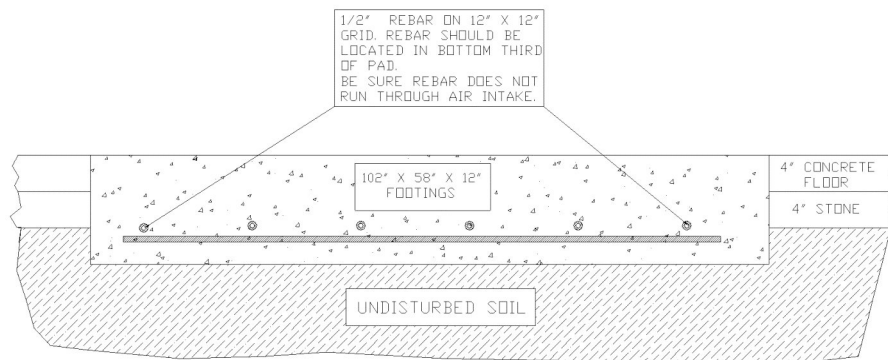
If you have decided on a chimney on both sides, you will need a second damper. Only 1 damper is supplied with a Crossfire. Please call the factory to order an additional damper.

The Foundation

As in any good building, your Crossfire requires a solid foundation. The weight of the fireplace and the facing material needs to be adequately transmitted to the soils carrying the house. In order to do so, the Crossfire requires a footing 12" deep with ½" reinforcing steel to be placed on a 12" x 12" grid located 4" up from the bottom.

The length and width of the footings are determined by your choice of chimney options. The table below provides the length and width.

Chimney Option	Length	Width
Chimney at each end	110"	50"
Chimney right hand side	95"	50"
Chimney left hand side	95"	50"
Chimney at the back	80"	65"



Cross-Section of Typical Footing

Supporting Walls

It is now necessary to construct the walls from the footing that will support the Crossfire. These walls are typically made of 8" concrete blocks (8"x8"x16").

The rectangle constructed using the blocks is 72" x 32". It should be constructed to a height approximately at the bottom of the floor joists.

This structure should be centered below the core and chimney.

Provision should be made for an ash cleanout door and for a 6" outside air inlet duct.

Concrete Pad

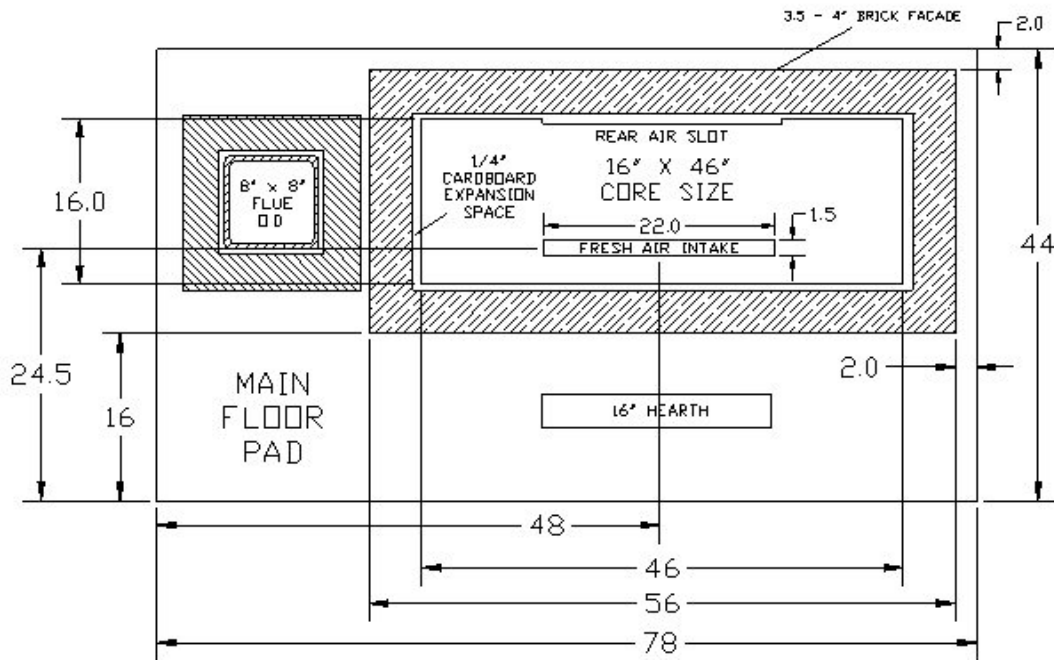
A concrete pad needs to be constructed on top of the concrete walls to build the Crossfire on. The size of the pad is determined based on the options you have chosen; location of the chimney and See-Through or not.

In all cases the concrete pad will have:

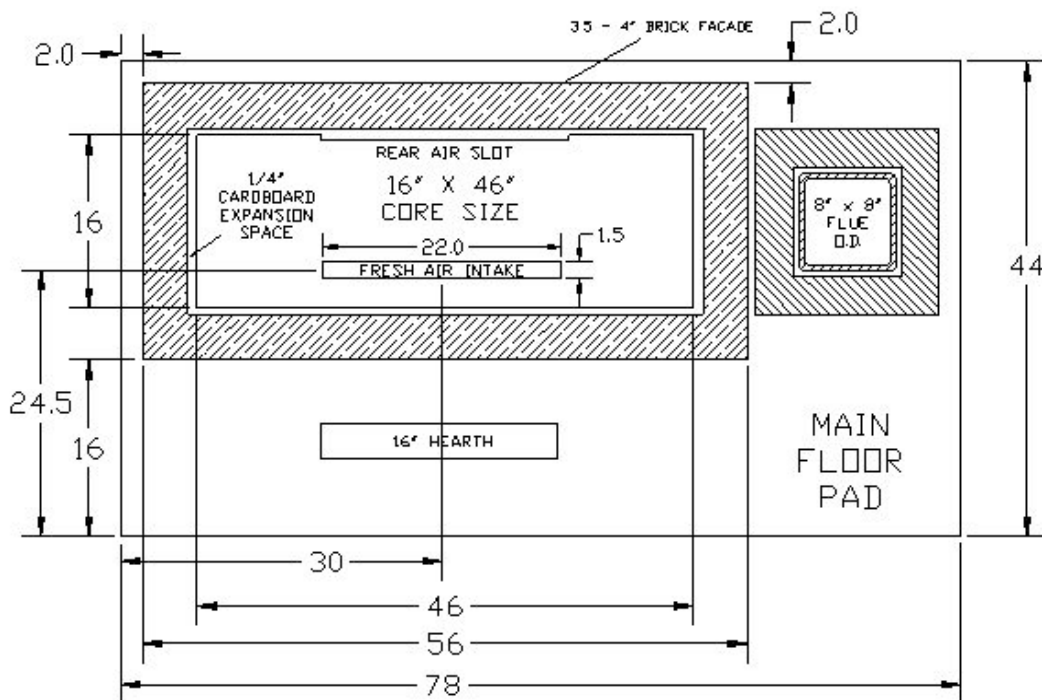
- Reinforcing steel of 1/2" bar on 12" spacing in both directions
- A hole 22" x 1 1/2" to act as a fresh air intake and ash drop
- A 2" gap between the pad and the floor joists.
- A 16" hearth on the door side. Note there will be a 16" hearth on both sides if the See-Through option was chosen.

The hole in the core for the air and ash as well as the space between the pad and the floor joist can be achieved by using 1.5" extruded Styrofoam and 2" extruded Styrofoam respectively, as filler materials during the placement of the concrete. Once the concrete sets, the Styrofoam can be removed, leaving the required holes and spaces.

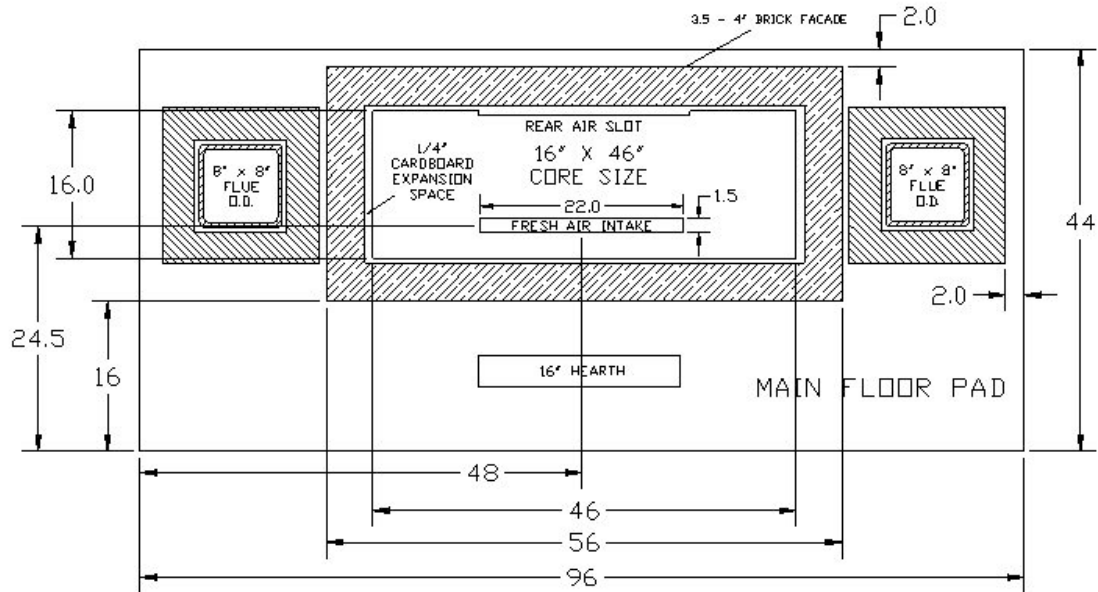
The following diagrams illustrate the dimensions of the concrete pads and the location of the air intake/ash dump. Please note the additional 16" hearth requirements if you have chosen the See-Through option. (Measurements are in inches.)



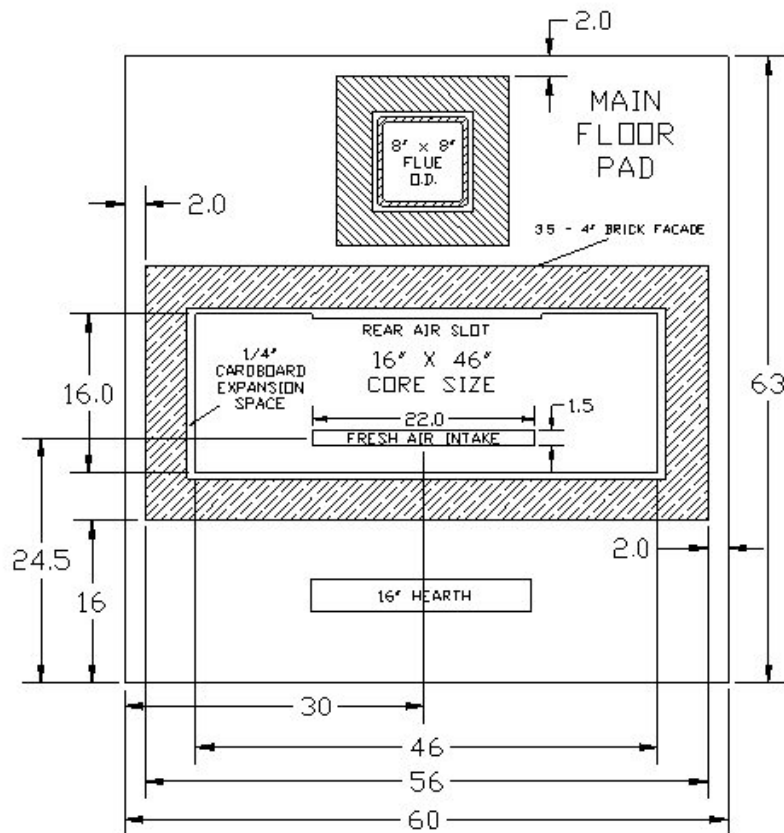
Chimney on the left.



Chimney on the right.

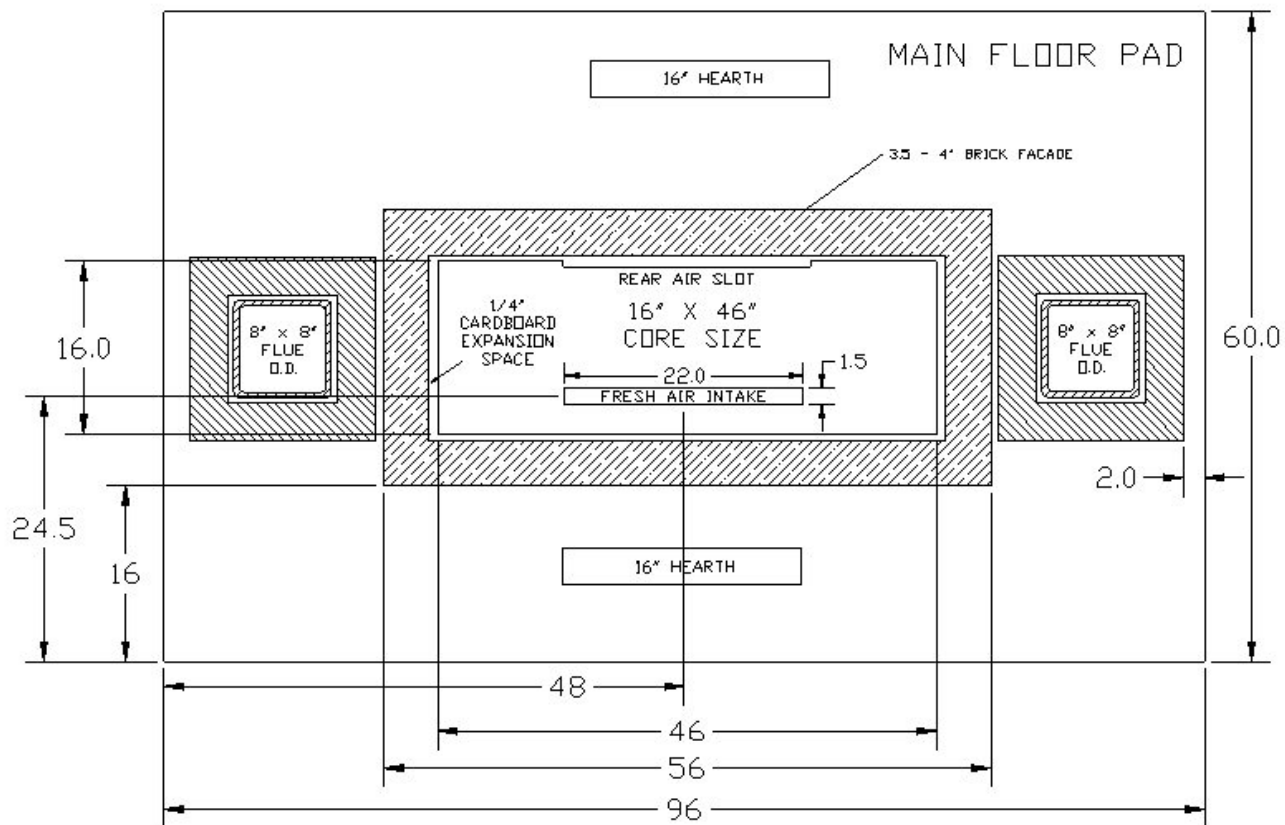


Chimneys on both sides



Chimney at the back.

(Note: The See-Through option does not allow for a chimney at the back)

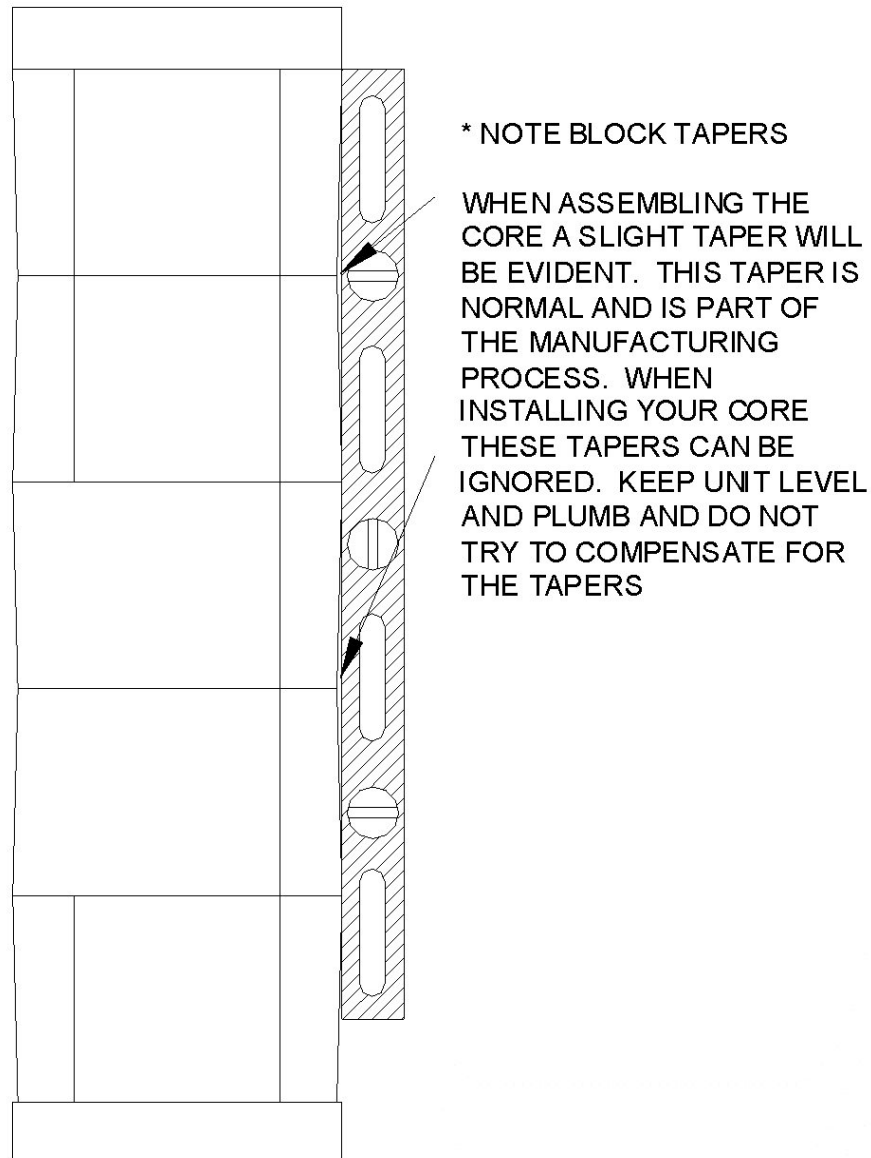


Double chimney, double hearth, See-Through option.

Constructing the Crossfire

Before you begin, ensure the Styrofoam spacers have been removed from around the concrete pad and from the air intake/ash dump.

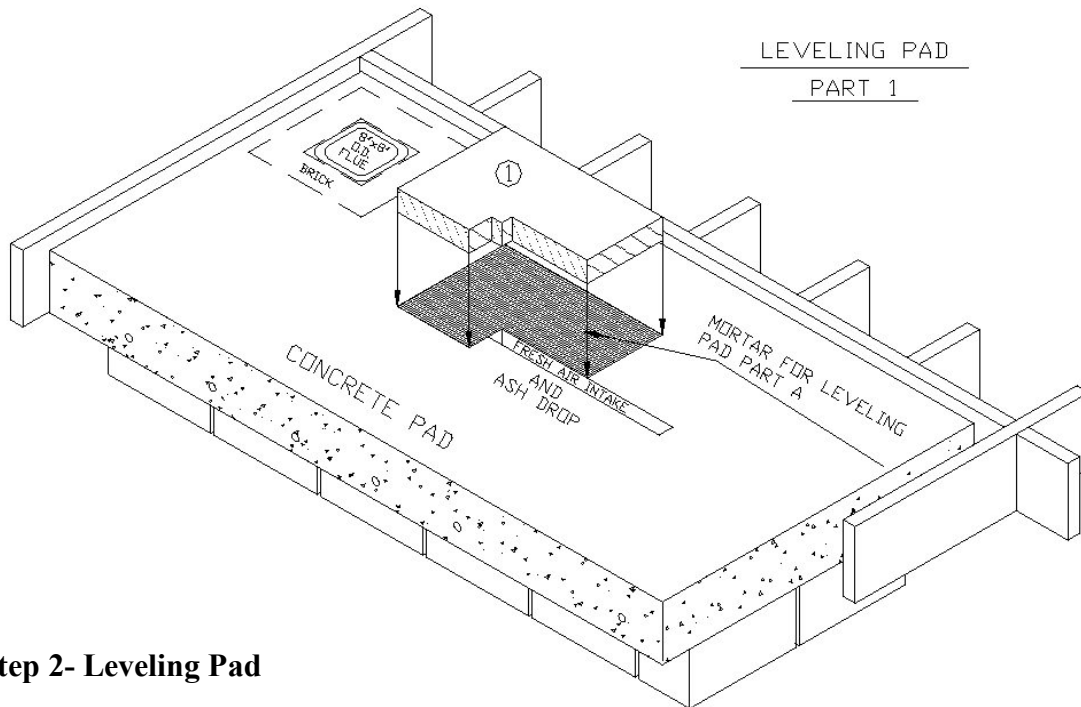
Please note that the core pieces are manufactured with a slight taper. When installing the core, these tapers should be ignored. Keep the Crossfire level and plumb and do not compensate for the tapers in the refractory core blocks. See the diagram below.



You are now ready to install your Crossfire.

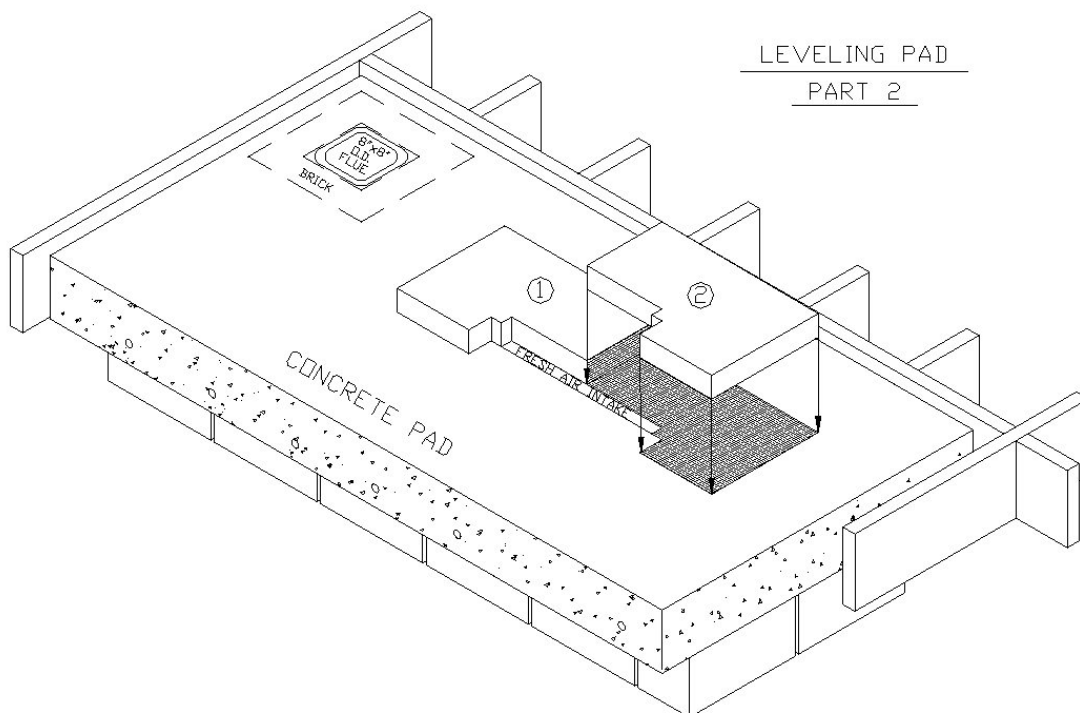
Step 1 – Leveling Pad

Locate Part 1. Spread a thin layer of refractory cement on the bottom of Part 1. Use the fresh air intake/ash dump hole as your reference point and install Part 1 onto the concrete pad. Use a level and ensure the block is level in both directions.



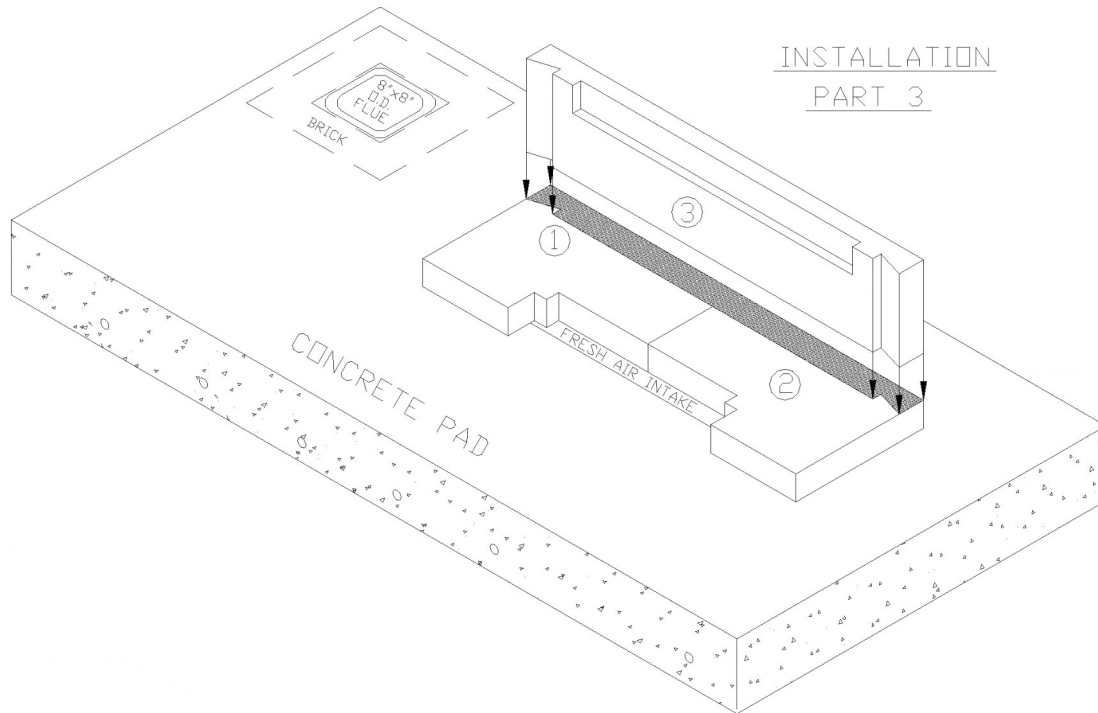
Step 2- Leveling Pad

Repeat the procedure above for Part 2.



Step 3 – Installation

Locate Part 3 and spread a thin layer of refractory cement on the bottom of the part. Use Parts 1 & 2 as your reference and install Part 3. Use a level to ensure the part is level and plumb.



Step 4 & 5 – Install the chimney connection blocks.

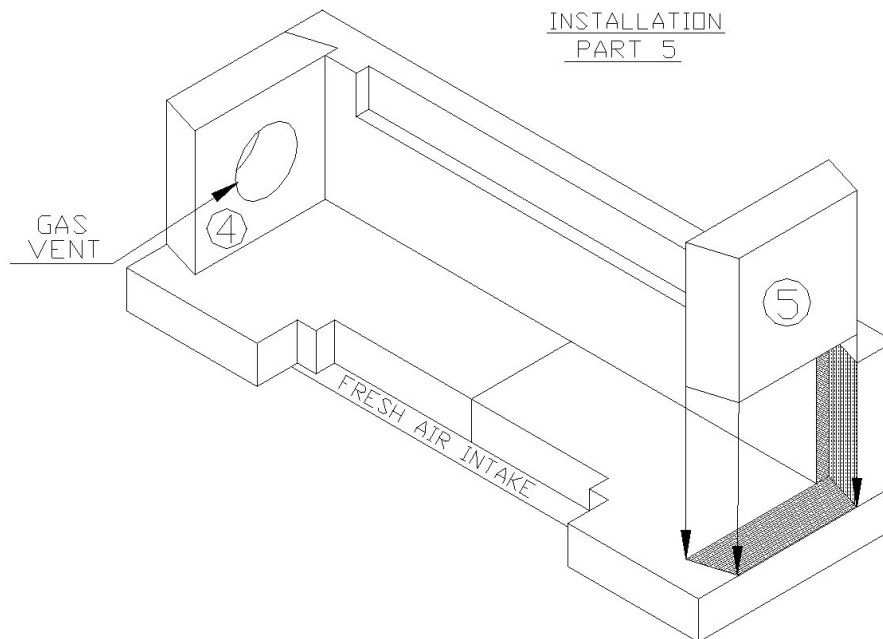
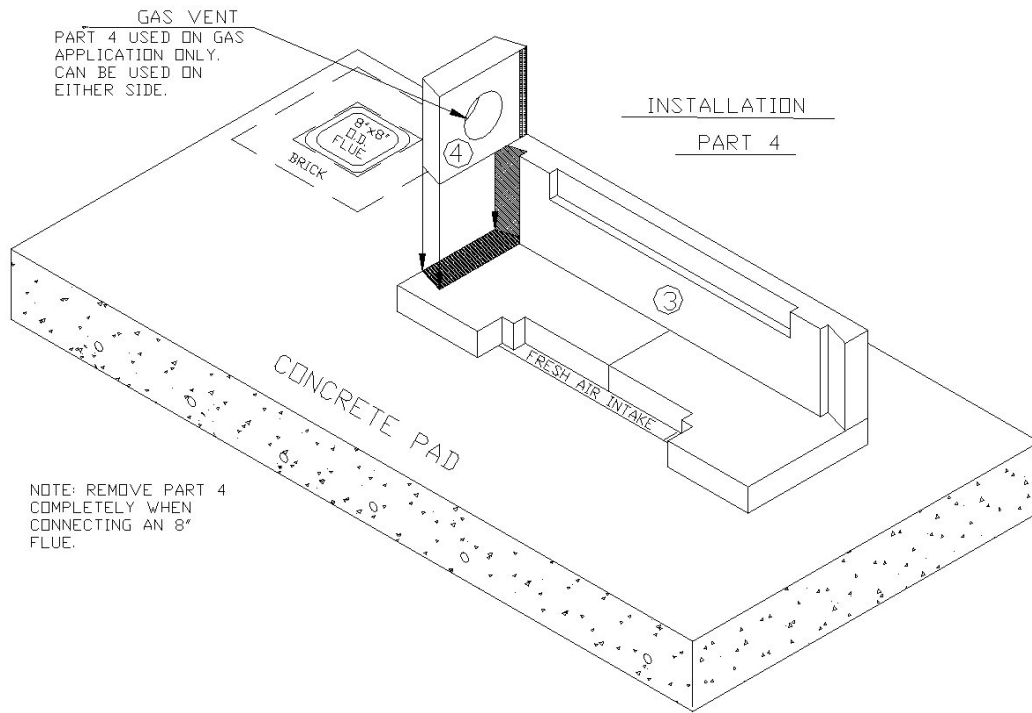
If you are installing your Crossfire with the Chimney to the left or the right or both, you will need to modify the installation of Parts 4 & 5. These parts are interchangeable. Note that the diagram shows the chimney to the left.

If installing the chimney to the left, leave out Part 4.

If installing the chimney to the right, put Part 5 in the location for Part 4 and leave the right side open.

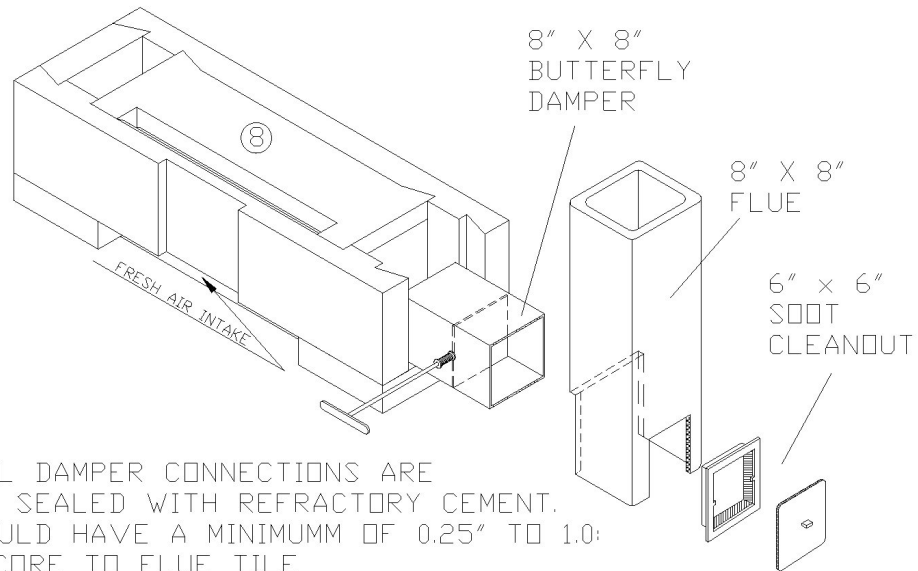
If installing a chimney on both sides, leave Parts 4 & 5 out.

Part 5 should have refractory cement applied to the bottom and to the side connecting to Part 3.



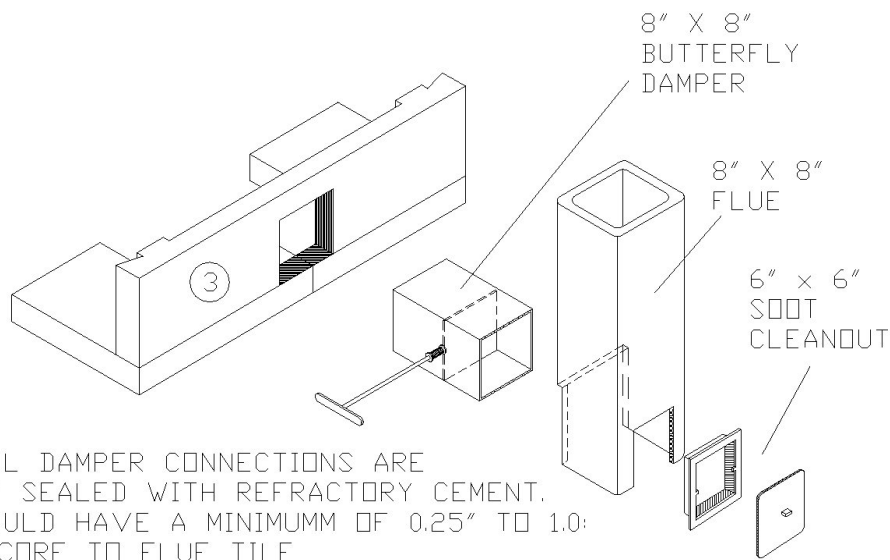
Installation of the Damper

This diagram shows the installation of the damper for right side chimney. The installation is the same for a left hand chimney.



Installation of a Rear Damper

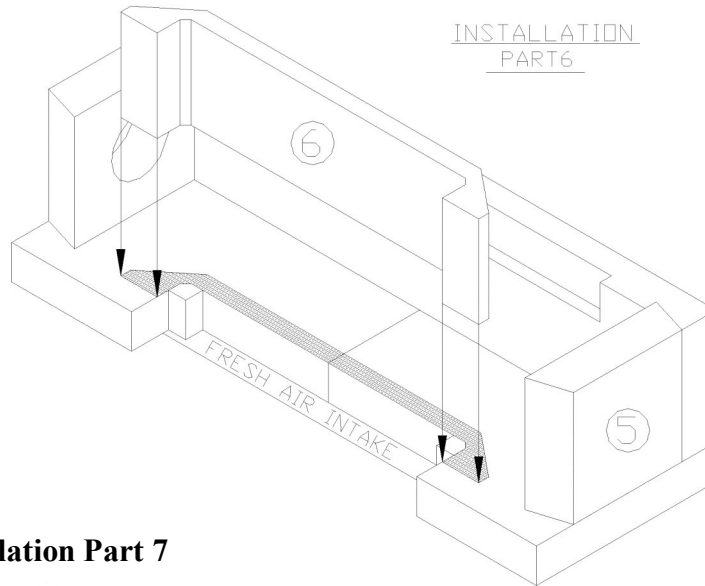
The following diagram shows the installation of the rear chimney option.



NOTE: THE DAMPERS ARE NOT SHOWN IN THE FOLLOWING STEPS

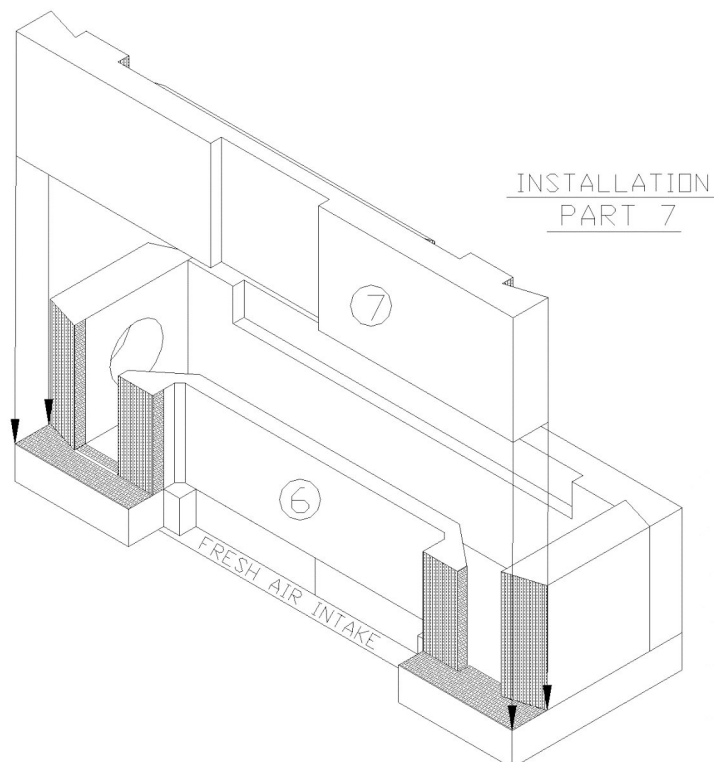
Step 6 - Install air intake block

Locate Part 6. Spread refractory cement on the bottom of the part and install on top of the leveling pad, using the leveling pad and the air intake as a guide.



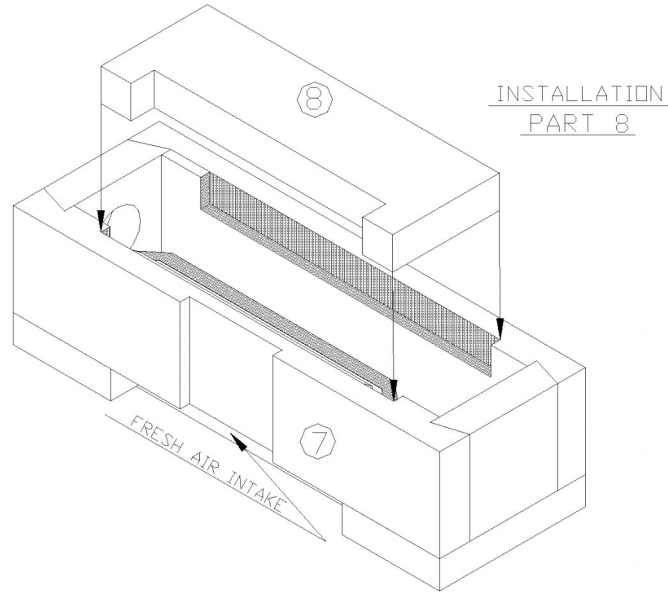
Step 7 – Installation Part 7

Locate Part 7. Apply a layer of refractory cement on the bottom of Part 7 and to the sides of Part 7 that will contact with the other pieces of the fireplace core installed.



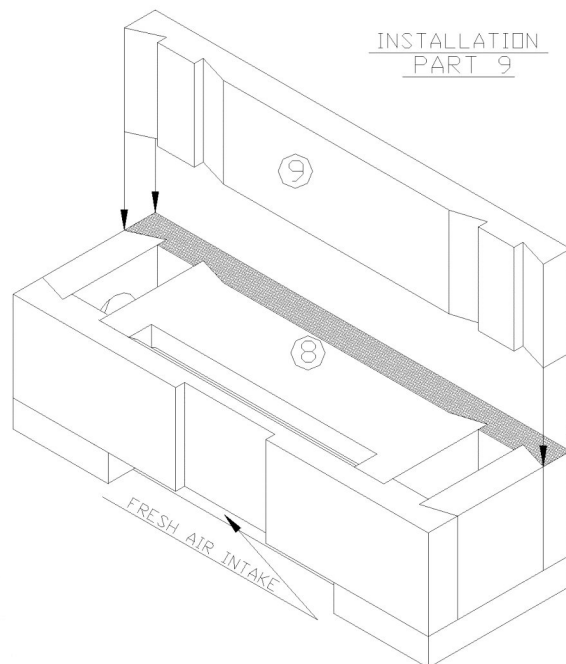
Step 8 – Install the base of the floor.

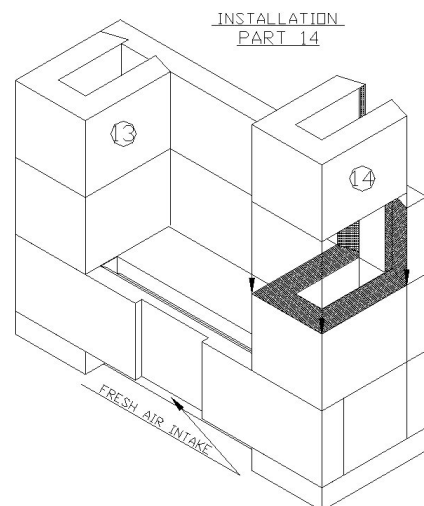
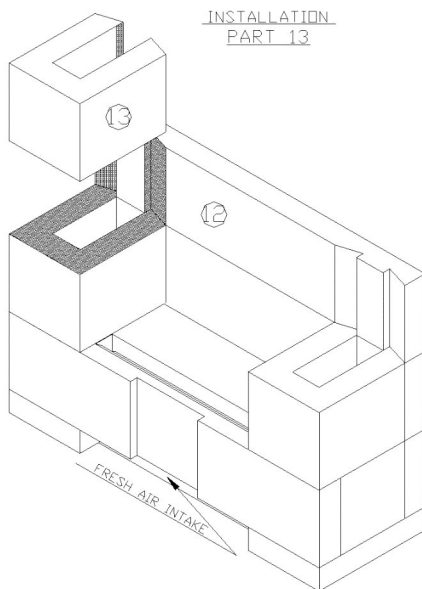
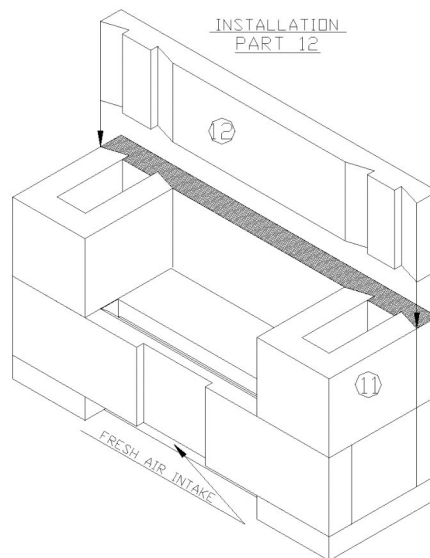
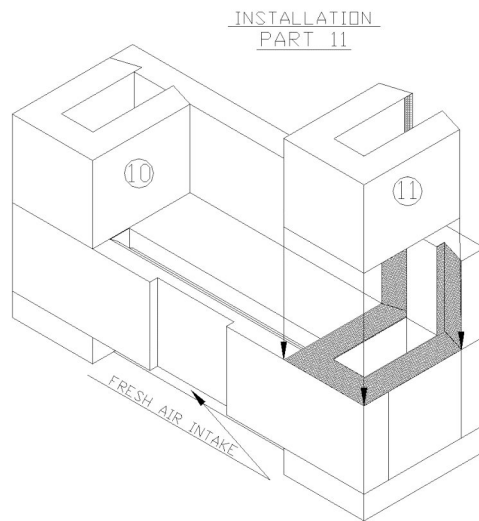
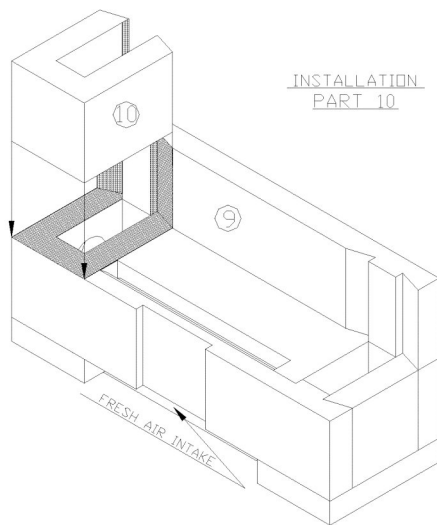
Locate Part 8. Apply refractory cement to bottom and sides of the Part where it will contact with the other pieces and install.

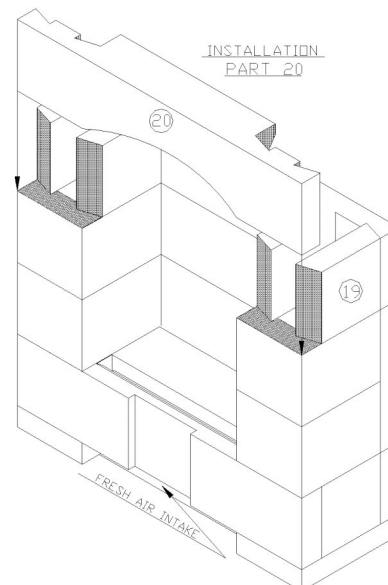
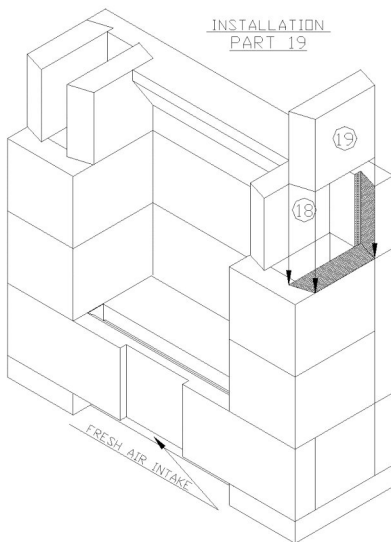
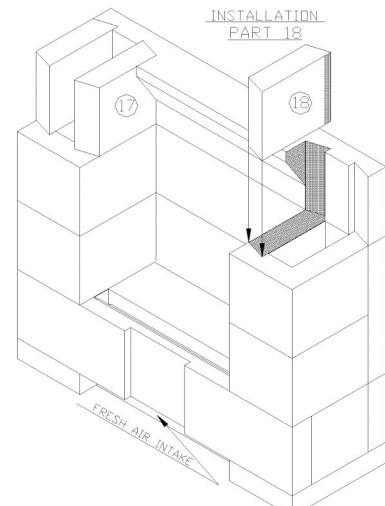
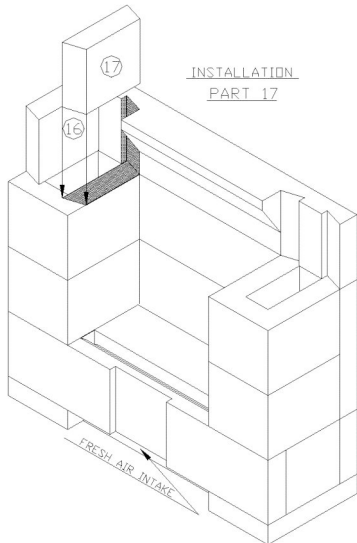
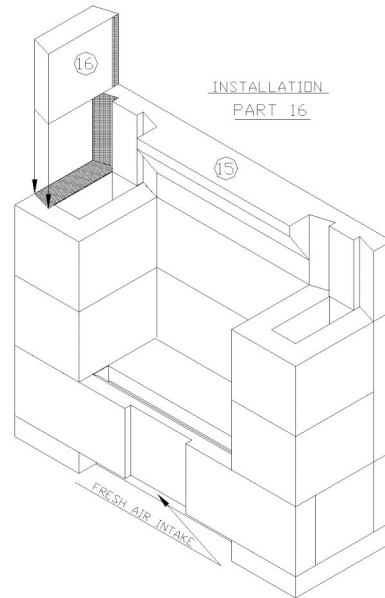
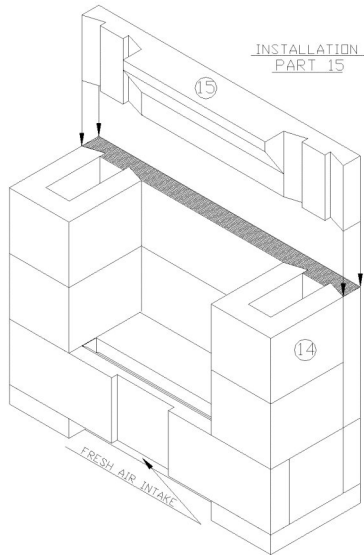


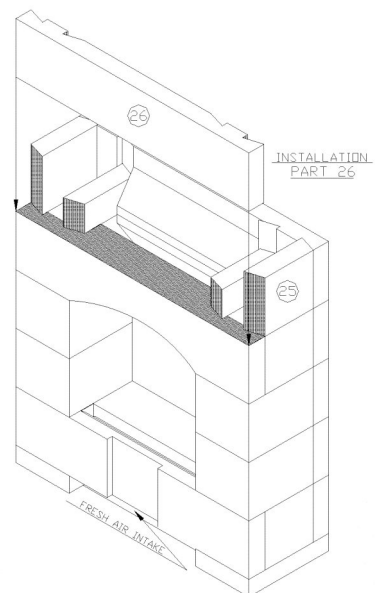
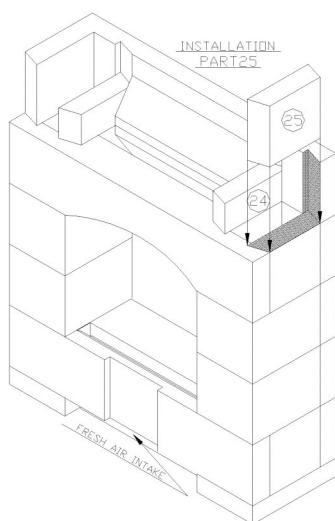
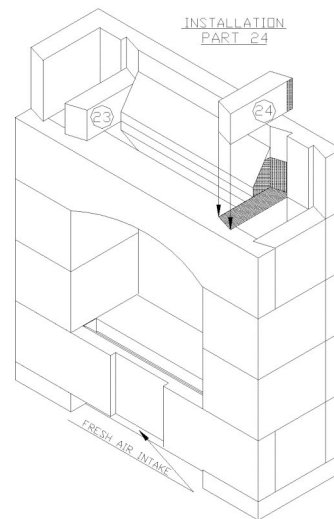
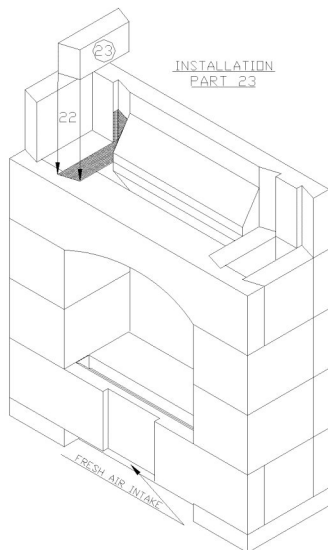
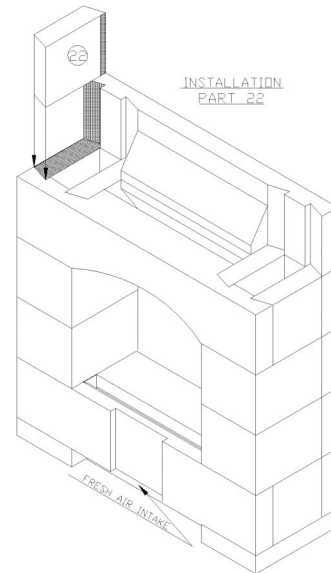
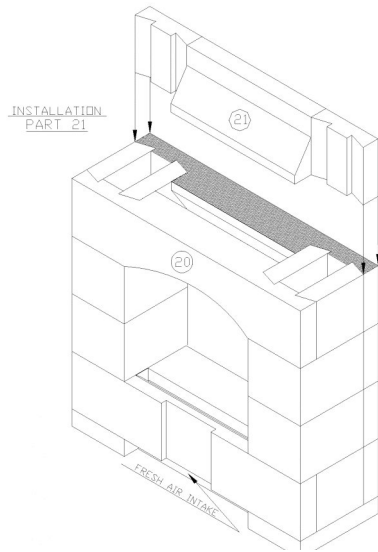
Step 9 – Complete the installation of the Crossfire core.

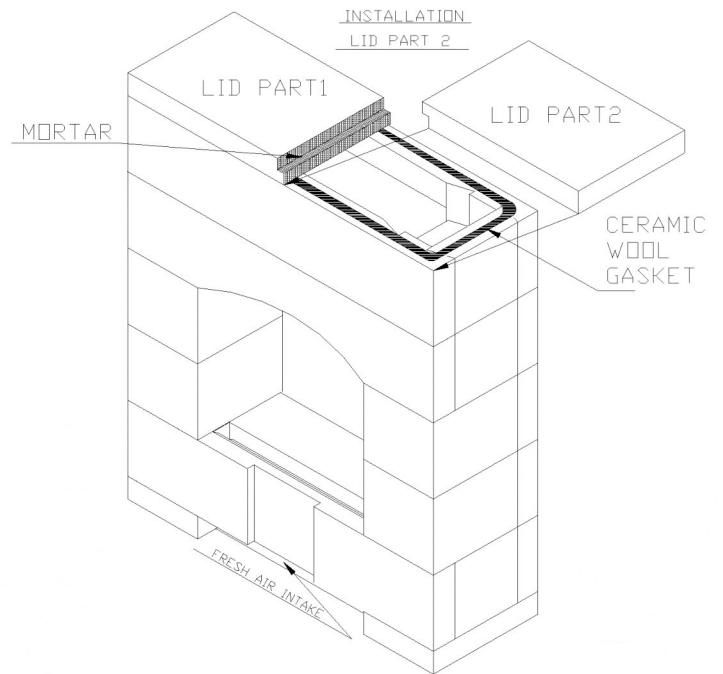
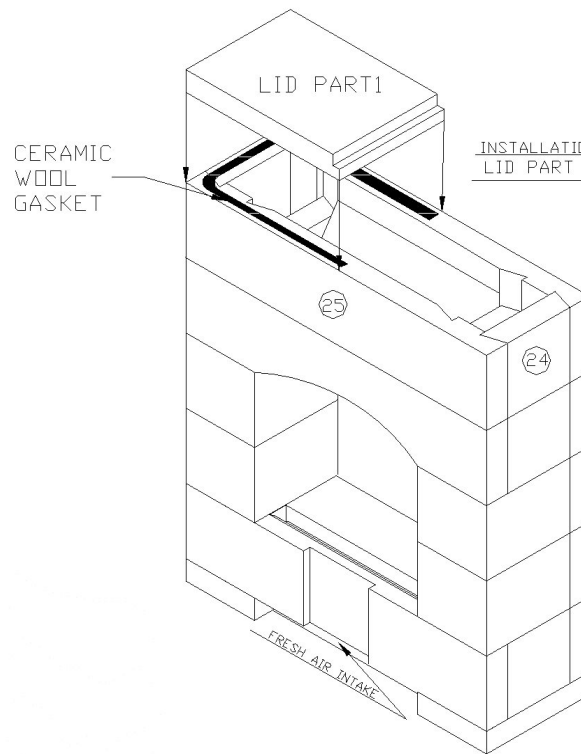
The next steps are straight forward. Locate the core pieces (which are numbered) and install them in order. Remember to apply a layer of refractory cement at each contact point. Also, remember to check the installation with a level to ensure the core is being installed level and plumb. Use the diagrams below for reference.



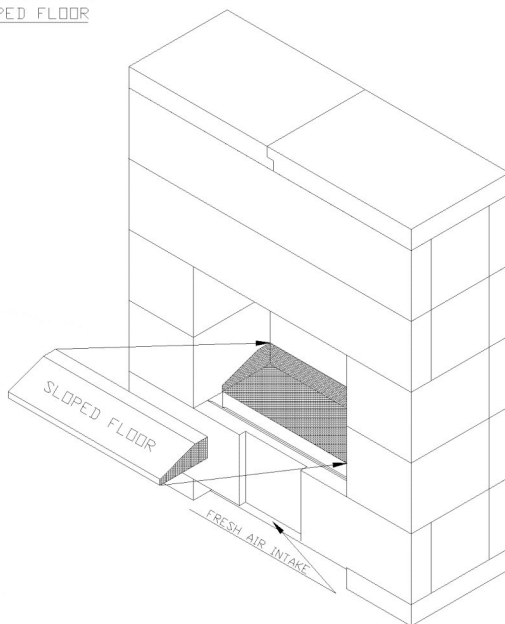




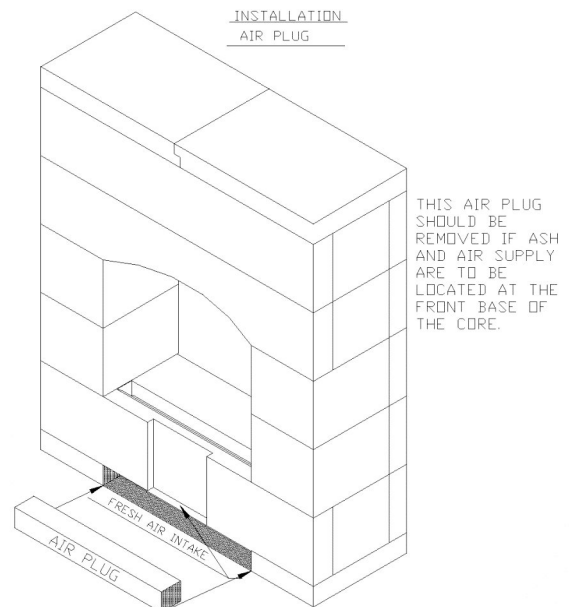




INSTALLATION
SLOPED FLOOR



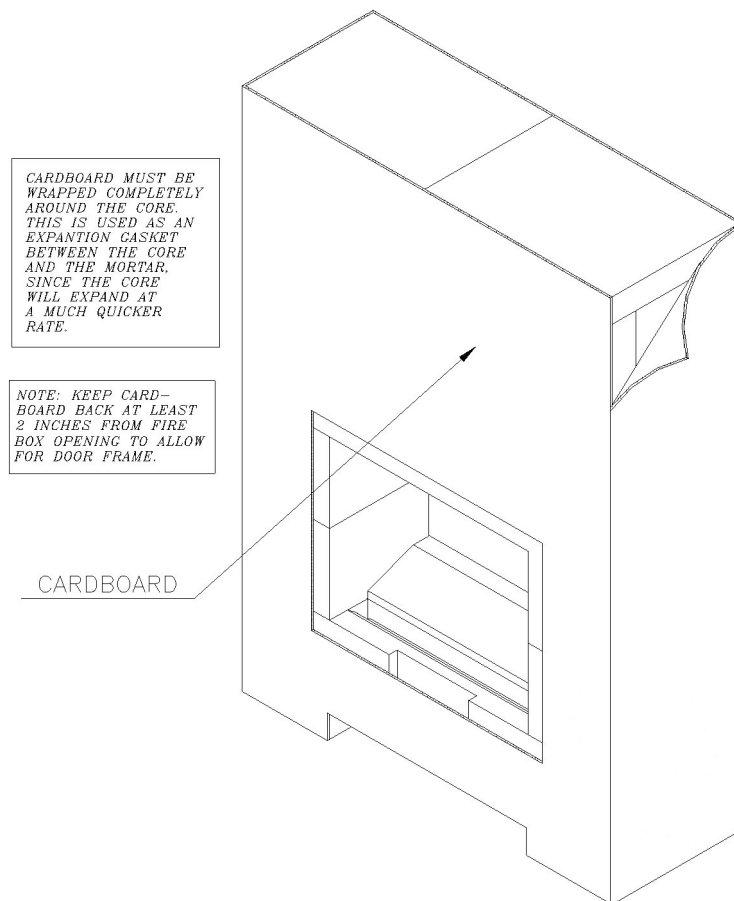
INSTALLATION
AIR PLUG



Installation of the Cardboard Spacer

Your Crossfire was supplied with cardboard pieces. This cardboard is intended to be wrapped completely around the core. The cardboard is used as an expansion gasket between the core and the mortar since the core will expand faster than the exterior facing material.

NOTE: The cardboard should be cut back at least 2" from the fire box opening to allow for the door frame.

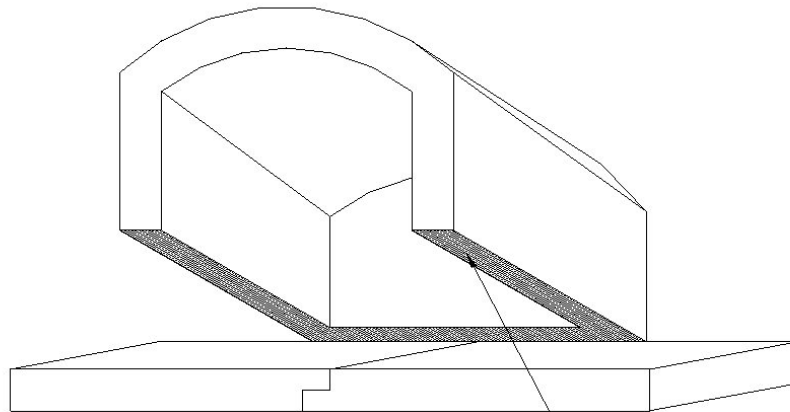


Bake Oven Installation

If you chose the bake oven option, it is now time to install it.

As with the other pieces, apply a thin layer of refractory cement to the bottom of the bake oven and place it, centered, on top of the lid.

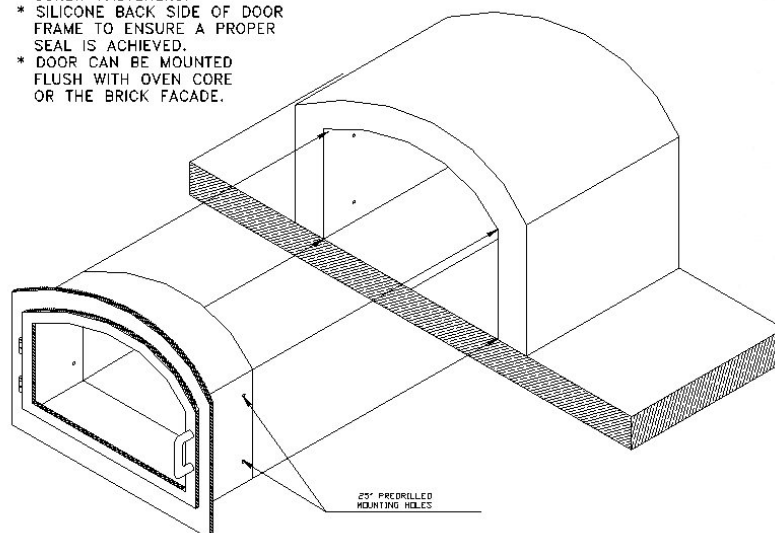
Install the bake oven door.



* PLEASE NOTE :
MAKE SURE THAT BAKE OVEN
CORE HAS ADEQUATE CEMENT
BETWEEN THE TWO MATING
SURFACES. THIS IS NEEDED
FOR PROPER HEAT TRANSFER
BETWEEN THE LID AND THE
BAKE OVEN.

BAKE OVEN DOOR INSTALLATION

- * POSITION DOOR IN OVEN AND MARK PREDRILLED HOLES WITH A PENCIL. REMOVE DOOR AND DRILL HOLES IN OVEN CORE. FASTEN DOOR WITH CONCRETE SCREW FASTENERS.
- * SILICONE BACK SIDE OF DOOR FRAME TO ENSURE A PROPER SEAL IS ACHIEVED.
- * DOOR CAN BE MOUNTED FLUSH WITH OVEN CORE OR THE BRICK FACADE.

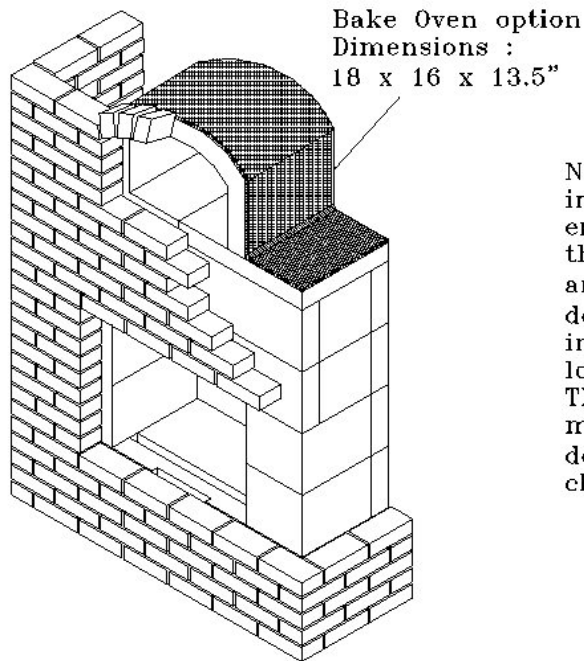


25" PREDRILLED
MOUNTING HOLES

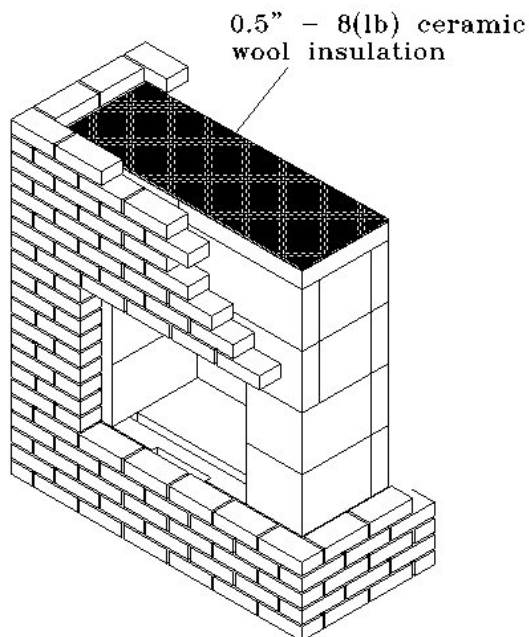
Installation of Ceramic Wool

If you chose the bake oven option, the ceramic wool is installed over the bake oven and the exposed areas of the lid.

If you did not select the bake oven option, the ceramic wool should be installed over the lid and turned up the inside of the facing material.



Note: Ceramic wool insulation must cover the entire surface of the oven, this includes top sides and rear 90.5" - 8(lb) densit ceramic wool) This insulation reduces heat loss from the bake oven. The bake oven should maintain 250 to 350 degrees (F) when properly charged.



Note:
The top of the core must be lined with ceramic wool insulation (0.5" - 8 (lb) density). The wool should run up the inside of the brick at least 1 course high. Mortar is spread over the wool and the top exposed layer of brick can be laid on this and jointed.

Installation of the Fire Door

The main fire door comes equipped with mounting hardware. Install in the hole provided and secure with the mounting hardware on the door to clamp the door frame to the refractory core. The diagram below is a side view of through the door and shows the operation of the fire door and air wash system.

